BookletChart

Great Lakes - Lake Champlain to Lake of the Woods

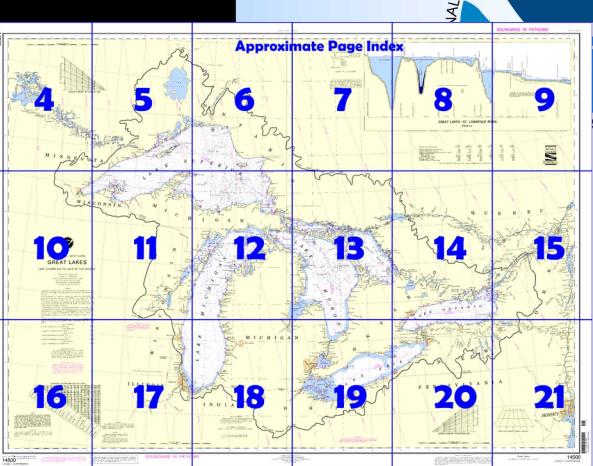
(NOAA Chart 14500)



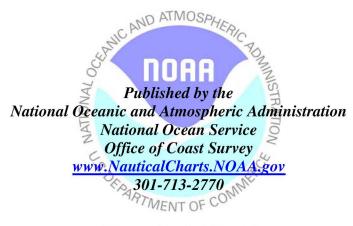
A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ☑ Complete, reduced scale nautical chart
- ✓ Print at home for free
- ☑ Up to date with all Notices to Mariners
- ☑ United States Coast Pilot excerpts
- ✓ Compiled by NOAA, the nation's chartmaker.

NOAA



Home Edition (not for sale)



What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart $^{\text{\tiny TM}}$?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



(1) **The Great Lakes system** includes Lakes Ontario, Erie, Huron, Michigan, and Superior, their connecting waters, and the St. Lawrence River. It is one of the largest concentrations of fresh water on the earth. The system, including the St. Lawrence River above Iroquois Dam, has a total shoreline of about 11,000 statute miles (9,559 nm), a total water surface area of about 95,000 square statute miles (24,600,000 hectares), and a total drainage basin of almost 300,000 square statute miles (77,700,000

hectares). With the opening of the St. Lawrence Seaway, the system provides access by oceangoing deep-draft vessels to the great industrial and agricultural heartland of the North American continent. From the Strait of Belle Isle at the mouth of the Gulf of St. Lawrence, the distance via the St. Lawrence River to Duluth, MN, at the head of Lake Superior is about 2,340 statute miles (2,033 nm) and to Chicago, IL, near the S end of Lake Michigan is about 2,250 statute miles (1,955 nm). About 1,000

statute miles (870 nm) of each of these distances is below Montreal, the head of deep-draft ocean navigation on the St. Lawrence River. (2) Small craft and barge traffic may also reach the Great Lakes via two shallow-draft routes; from the Gulf of Mexico via the Mississippi River and the Illinois Waterway to Lake Michigan at Chicago, IL, a distance of about 1,530 statute miles (1,329.5 nm), and from New York Harbor via the Hudson River and the New York State Canal System to Lake Ontario at Oswego, N.Y., a distance of 340 statute miles (295.5 nm), or to the Niagara River at Tonawanda, N.Y., 496 statute miles (431 nm). (4) The St. Lawrence Seaway includes the waters of the St. Lawrence River above Montreal, Lake Ontario, the Welland Canal, and Lake Erie as far W as Long Point. The canals and locks of the Seaway overcome the rapids and water level differences in the St. Lawrence River between the ocean and Lake Ontario and between Lake Ontario and Lake Erie and enable deep-draft oceangoing vessels to proceed from the Atlantic Ocean to Lake Superior, the farthest inland major lake.

(7) Aids to navigation in U.S. waters of the Seaway between St. Regis and the head of the St. Lawrence River are described in the U.S. Coast Guard Light List. Buoys off station, lights extinguished or malfunctioning, and other defective conditions should be reported promptly, by radio or other means, to the nearest Coast Guard unit or to traffic control center via "Seaway Eisenhower" or "Seaway Clayton." (34) The water levels of the Great Lakes are subject to three types of fluctuation: seasonal, long range, and short period.

(35) The seasonal fluctuations are the most regular, with the highest levels usually occurring in summer and the lowest in winter. They are caused by a number of factors that affect lake levels, including rain and snowfall, evaporation, ground water levels, and runoff from the land. From year to year, the magnitude of the fluctuation between the high and the low and the months in which these occur may vary considerably in an individual lake. Lake Superior is generally last to reach its seasonal low and seasonal high, in March and September, respectively. Lakes Michigan and Huron usually reach their low in February and their high in July. Lake Erie usually reaches its low in February and its high in June. Lake Ontario usually reaches its low in January and its high in June. The amount of fluctuation between the seasonal high and low is generally least in Lake Superior and most in Lake Ontario.

(36) Long range fluctuations of the lake levels are caused by long term variations of the same factors which affect seasonal fluctuations. Precipitation is the most important. Long periods of above or below normal rain and snowfall are usually followed by higher or lower lake levelsl. Another cause of long range fluctuations is the uplifting of the earth's crust in the Great Lakes region. When the outlet of the lake is rising in relation to the lake shores, the water level rises with respect to the land. This effect is occurring in all the lakes, except for parts of the NE shores of Lake Superior and Lake Huron.

(37) Short period fluctuations occur in amounts of a few inches to several feet for periods varying from a few minutes to a day, depending on where they occur. These fluctuations are caused by winds, by sudden barometric pressure changes, and by oscillations called seiches, which may be caused by one or both of the other two. Sustained winds drive forward a greater volume of surface water than can be carried off by the subsurface return currents, thus raising the water level on the lee shore and lowering it on the windward shore. This effect is more pronounced in bays and at the extremities of the lakes, where the impelled water is concentrated in a small space by converging shores, especially if coupled with a gradually sloping inshore bottom which even further reduces the flow of the lower return currents. Closely spaced high and low barometric pressure centers moving across a lake cause a temporary tilting of the water surface. This tilting is dependent on the pressure gradient and the speed of the moving centers. Seiche is an oscillation that occurs when winds and barometric pressure differences causing a fluctuation have diminished. The lake surface is in a tilted condition, and a surge of water takes place from the

high area to the low. An imbalance in the opposite direction occurs and causes a return surge.

Table of Selected Chart Notes

Corrected through NM Oct. 26/02 Corrected through LNM Oct. 15/02

CAUTION

Temporary changes or defects in aids to

emporary cnanges or detects in alos to navigation are not indicated on this chart. See Local Notice to Mariners. During some winter months or when endan-gered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toil free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

MAGNETIC VARIATION

MAGNETIC VAHATION
Magnetic variation curves are for 2002 derived from 2000 World Magnetic Model and accompanying secular change. If annual change is in same direction as variation it is additive and the variation is increasing. If annual change is opposite in direction to variation it is subtractive and the variation is decreasing. Places of large local disturbances are indicated in magenta thus:

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83) and for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require con-version to NAD 83 for plotting on this chart.

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SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

NOTE

The above table gives the shortest navigable distances between principal points on the Great Lakes to the nearest even mile; fractions of 1/2 mile or more being taken as a full mile and those under the half dropped. Distances on the St. Lawrence River are measured from the entrance to the St. Lawrence Seaway located at Montreal Harbor. For complete mileage tables of the Great Lakes and their connecting waterways, see the Great Lakes Pilot.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner.

Loran-C correction tables published by the National Imaging and Mapping Apency or others should not be used with this chart. The lines of position shown are based on assumed all seawater signal paths. Uncorrected positions may not meet the XI naultcal mile accuracy critisia established by the U.S. Obast Guard. Mainners are callioned to use larger scale Loran-C charts where possible. STATION TYPE DESIGNATORS: (
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This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Cheft, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, and Canadian authorities.

INTERNATIONAL BOUNDARY. The International Boundary Line as shown hereon is in accordance with the location adopted August 15, 1913 by the International Water-ways Commission under Article IV of the treaty between the United States of America and the United Kingdom of Great Britain and Ireland signed April 11, 1908.

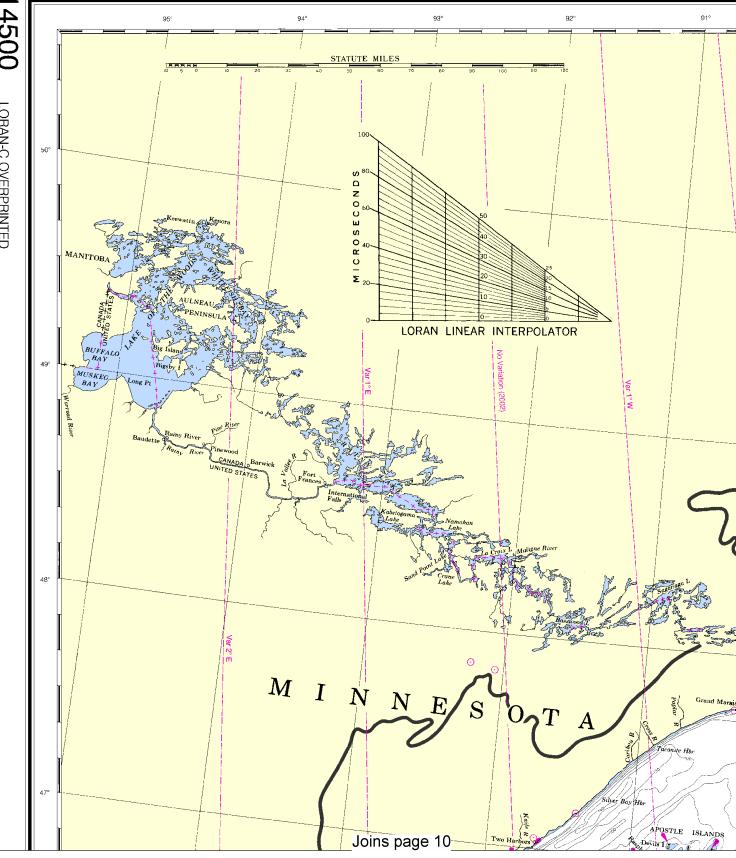
AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

PRINT-ON-DEMAND CHARTS

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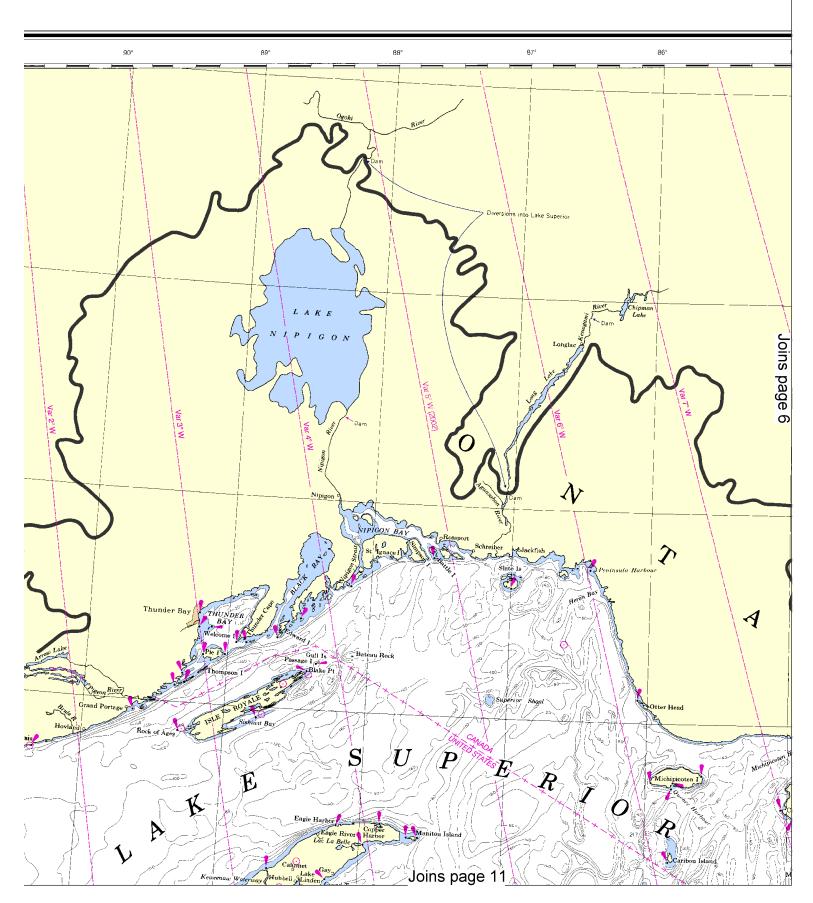
NOAA and its partner, OceanGrafix, offer this chart updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts or contact NOAA at 1-800-584-4683, http://NoaturicalCharts.gov, help@NauticalCharts.gov, or OceanGrafix at 1-877-56CHART, http://OceanGrafix.com, or help@NauticalCharts.gov, help@OceanGrafix.com.

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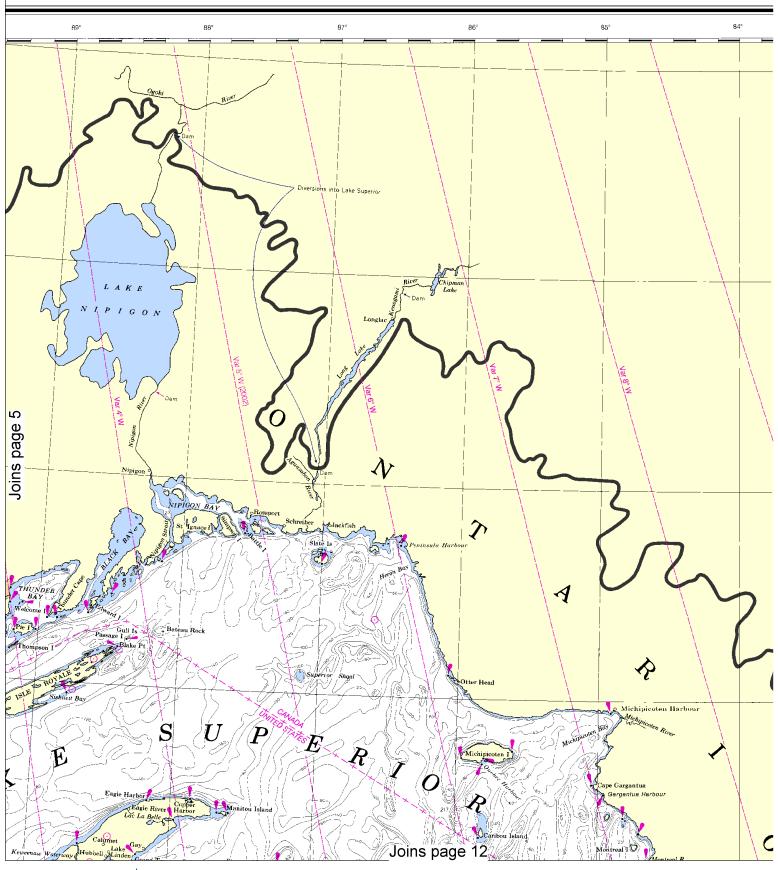






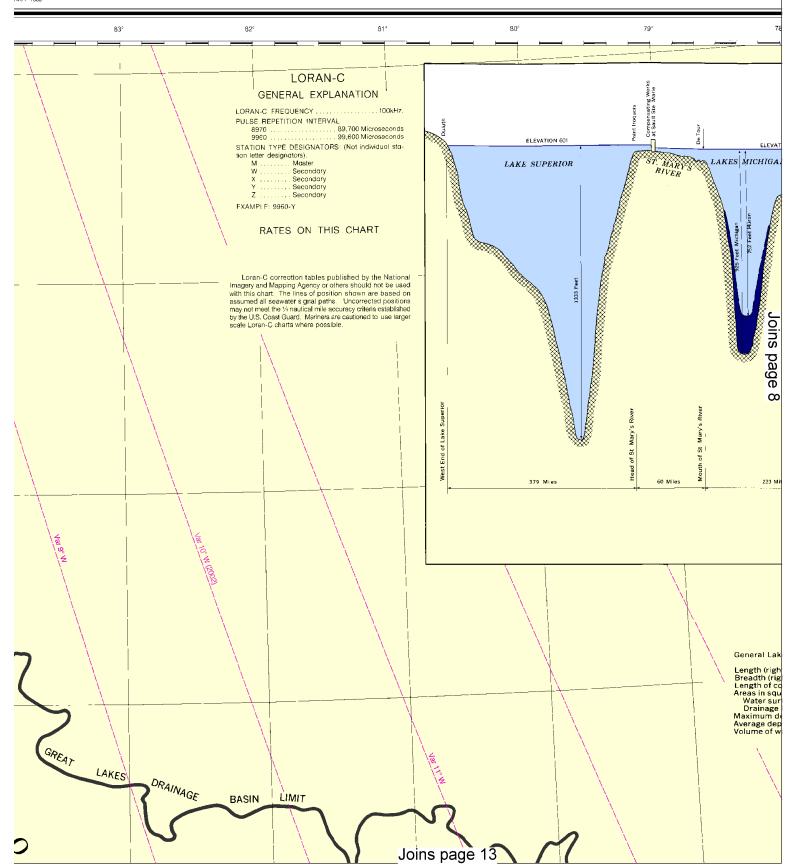


This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:2000000. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



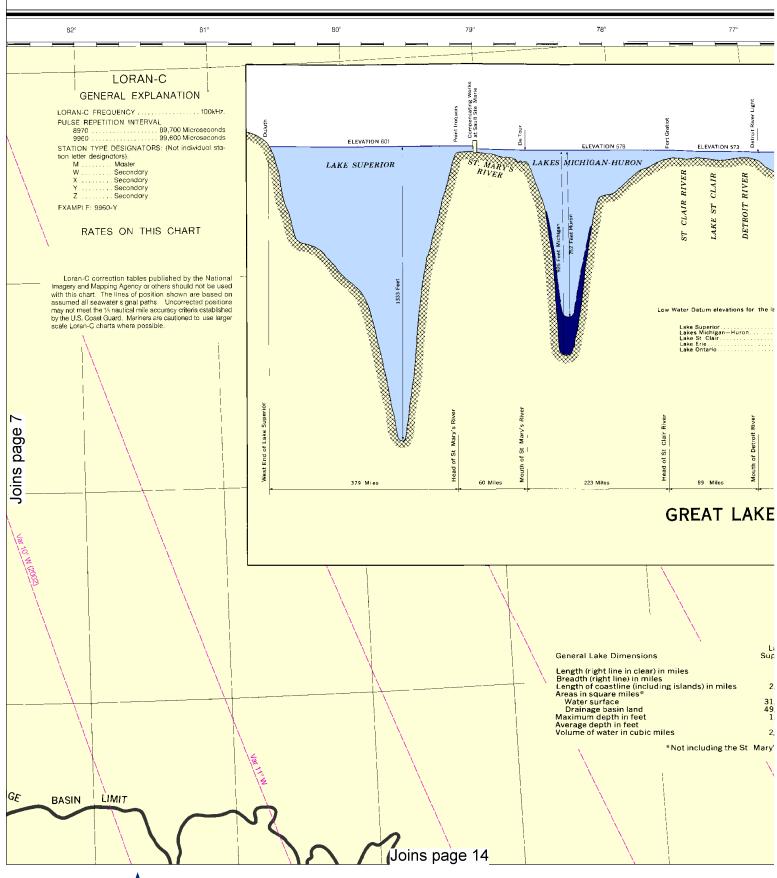








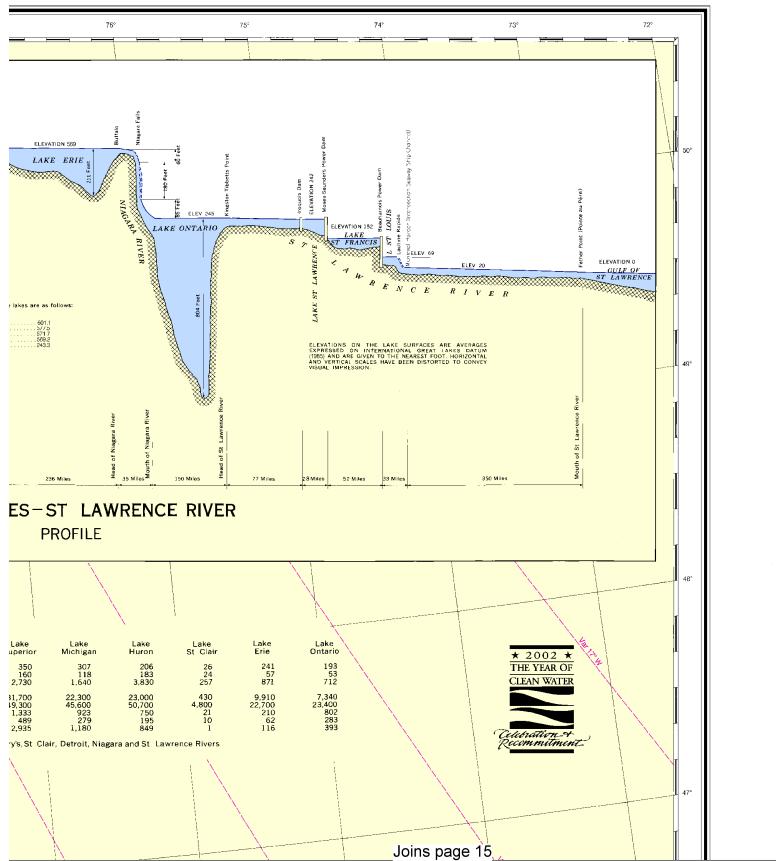


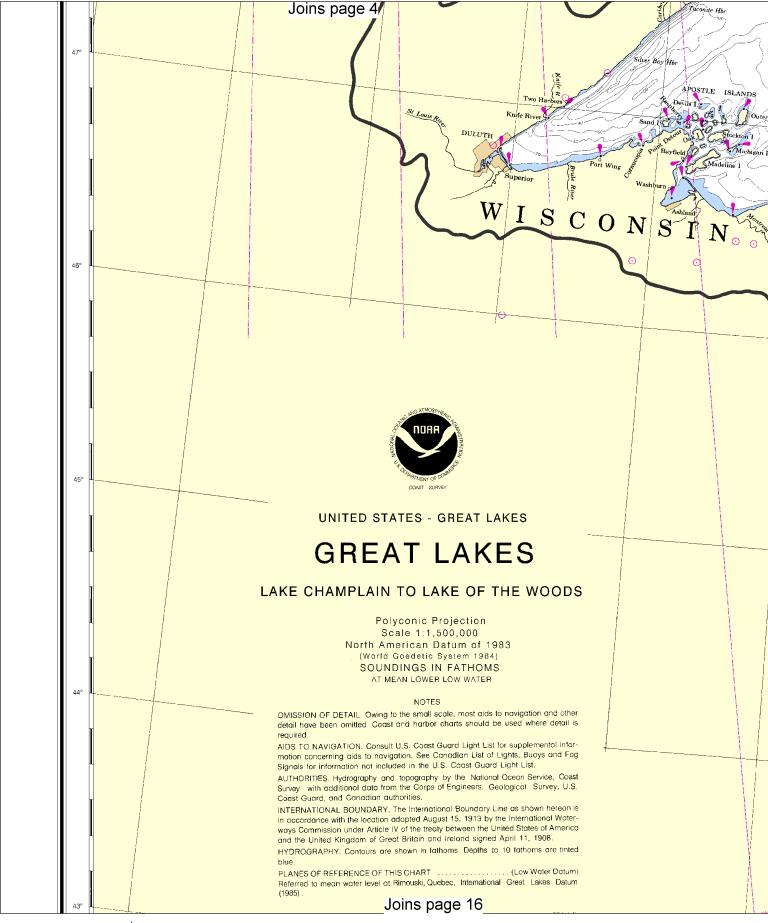




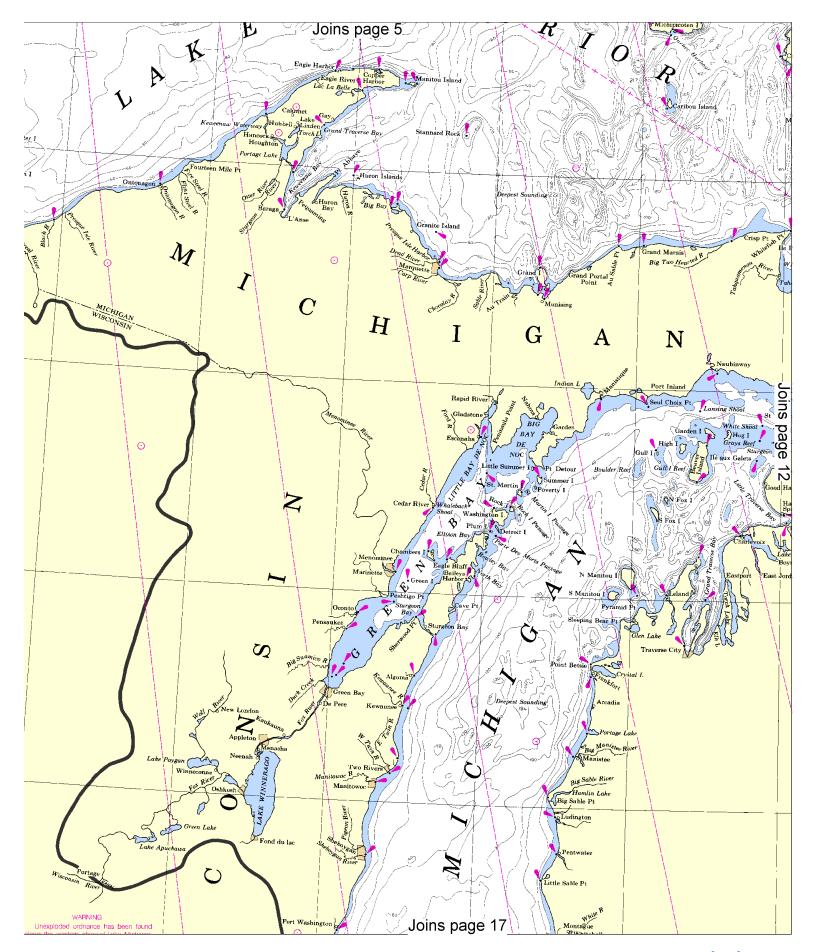
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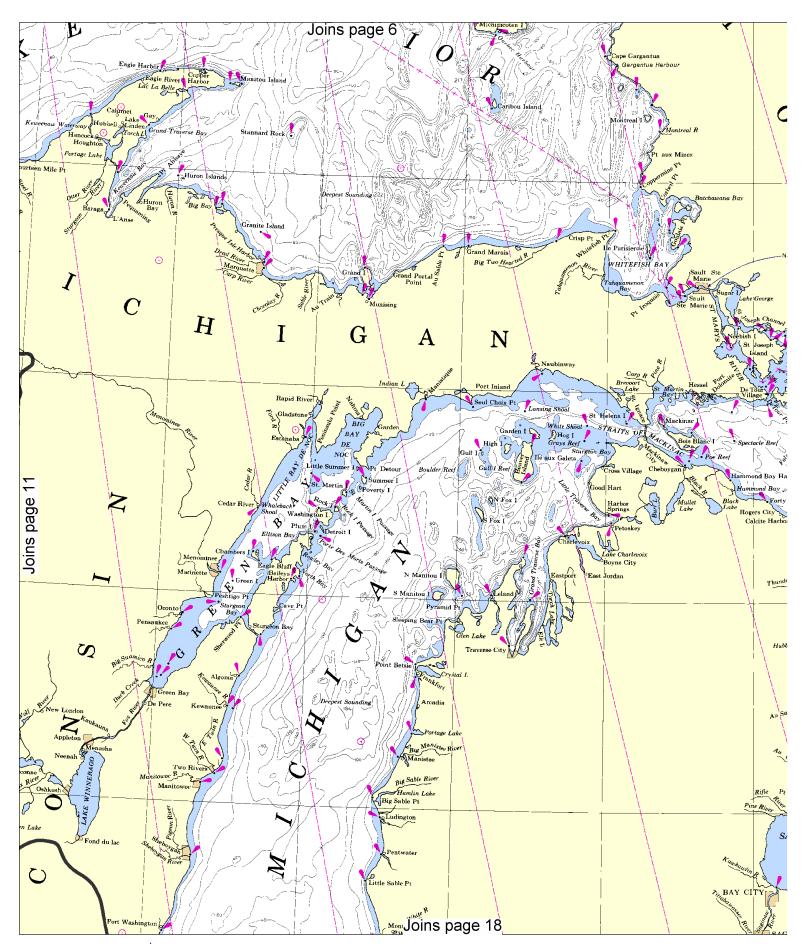
Nautical Chart Catalog No. 4





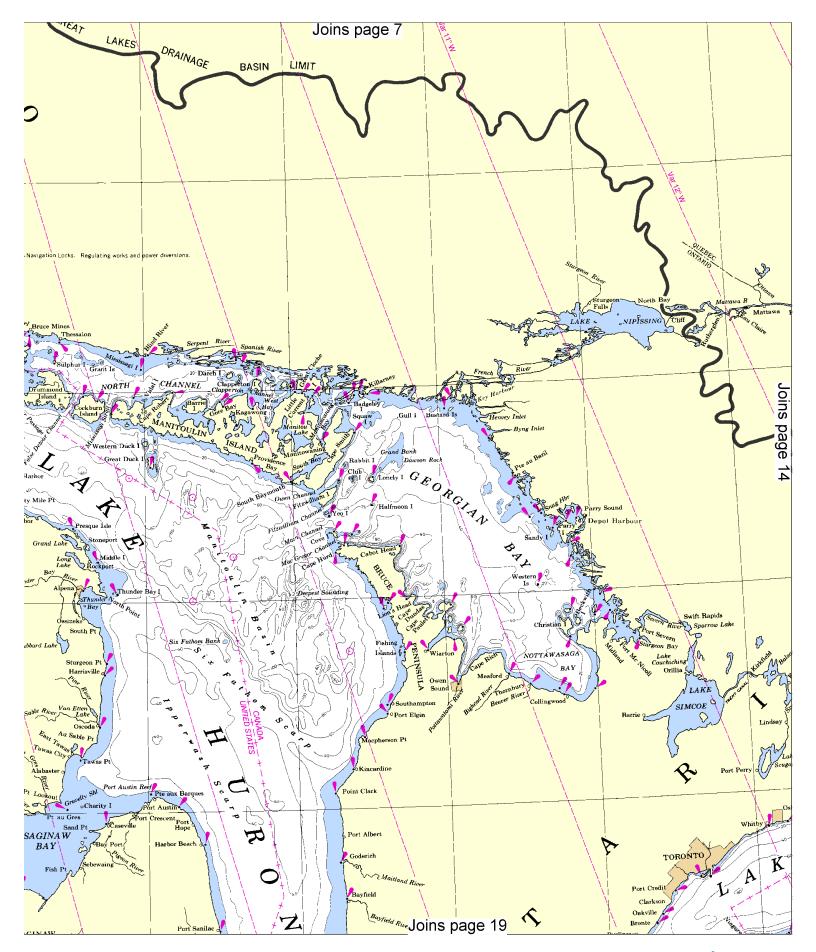


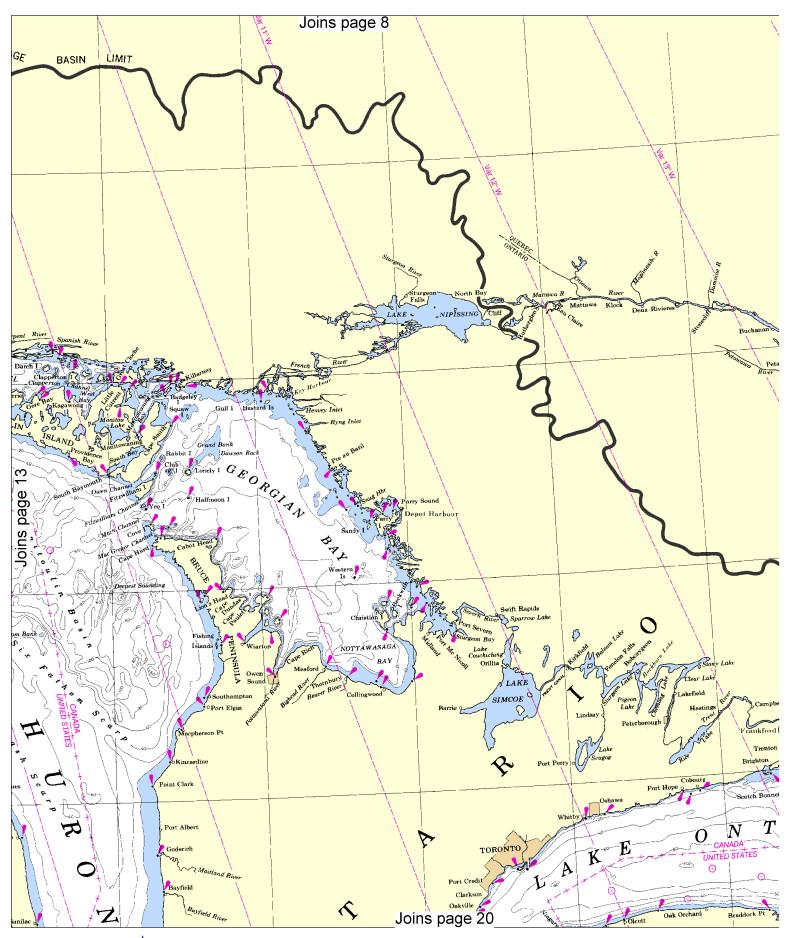






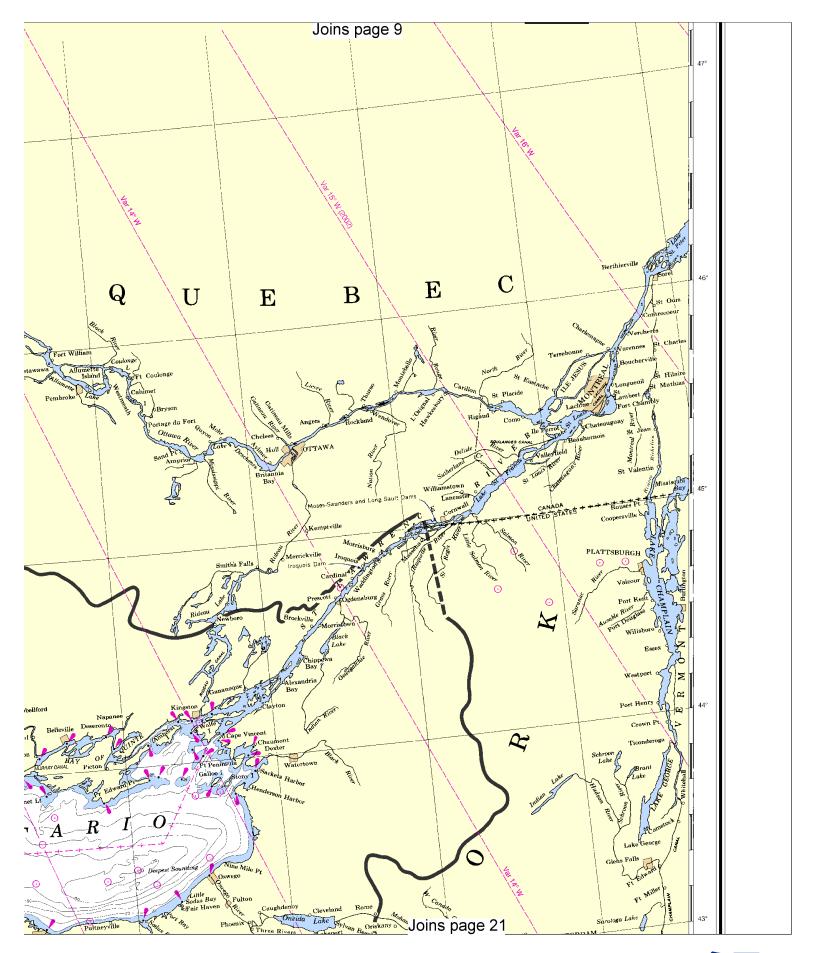


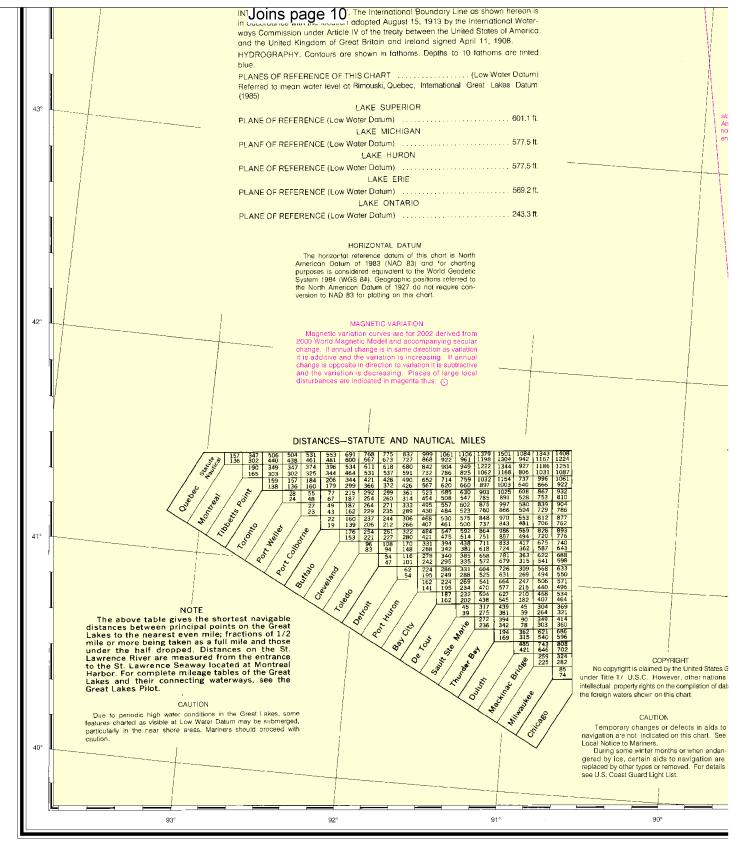












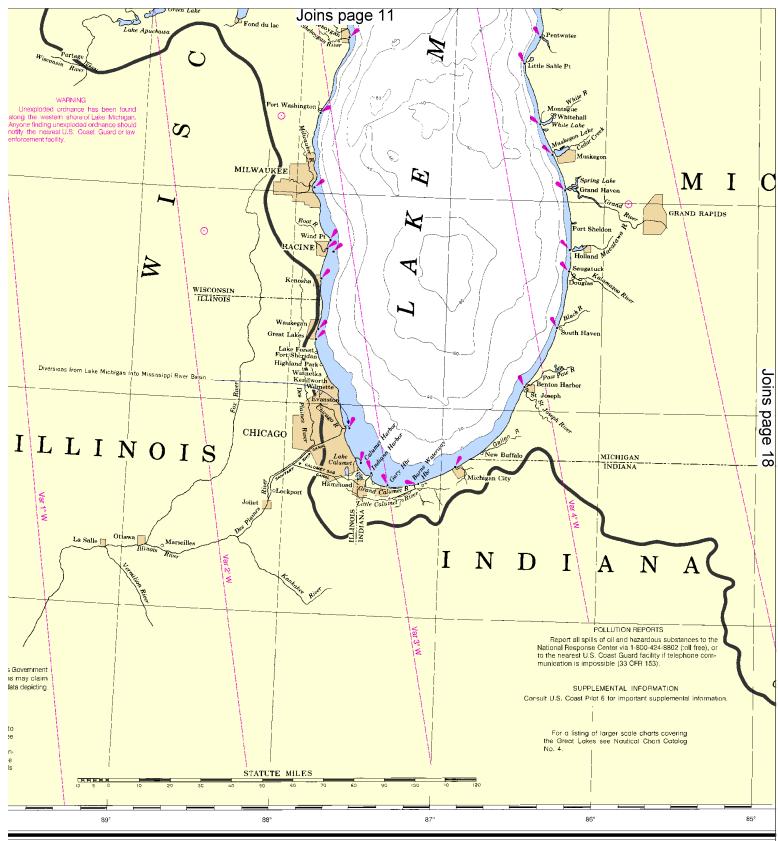
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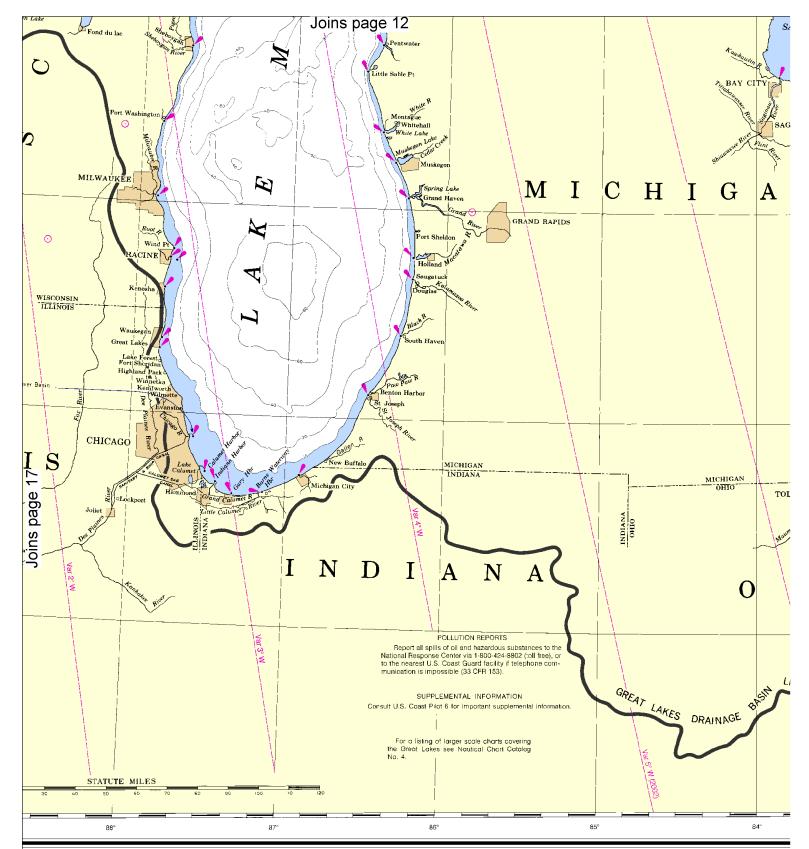
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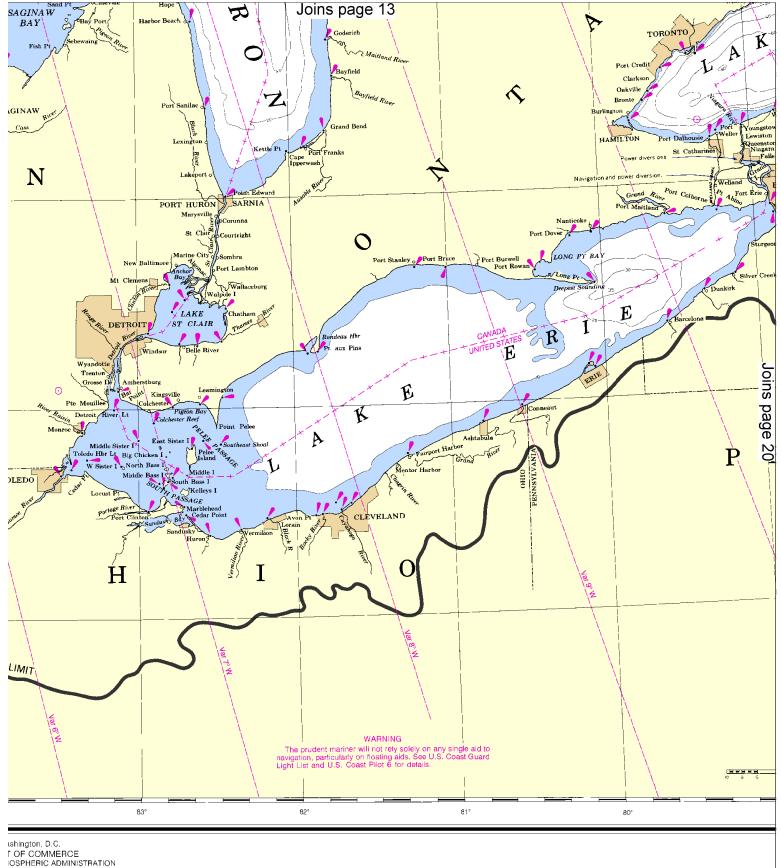
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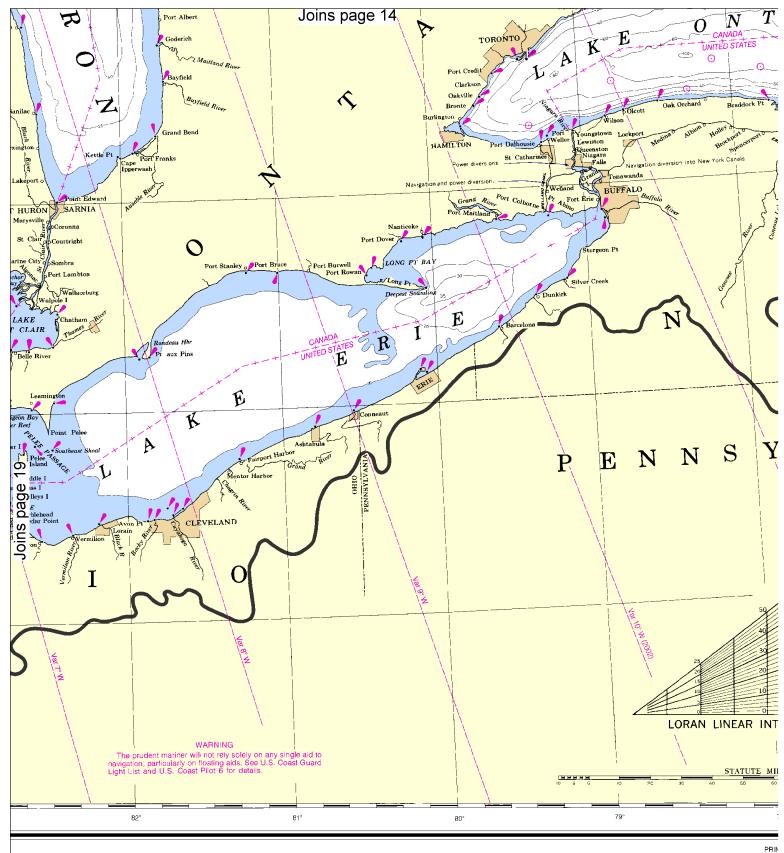
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NOAA and its partner, OceanGrafix, o and critical corrections. Charts are prin Editions are available 5-8 weeks before t about Print-on-Demand charts or con help@NauticalCharts.gov. or Ocear help@OceanGrafix.com.





EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls

to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

- 1. Make sure radio is on.
- 2. Select Channel 16.
- 3. Press/Hold the transmit button.
- 4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- 6. Release transmit button.
- Wait for 10 seconds If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!!

Mobile Phones – Call 911 for water rescue.

Coast Guard Search & Rescue – 216-902-6117 **Canadian Coast Guard (RCC Trenton)** – 1-800-267-7270 or 613-965-3870

<u>NOAA Weather Radio</u> – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.



NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S, including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts — These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENCs®) -

ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNCs[™]) –

RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts[™] – BookletCharts[™] are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketChartsTM – PocketChartsTM are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot® – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm.

Internet Sites: www.Noa.gov, <a href="